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ECONOMICS

IN
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INAUGURAL LECTURE

BY

H. STANLEY JEVONS, M.A., F.S.S.

University Professor of Economics

PUBLISHED FOR
THE UNIVERSITY OF ALLAHABAD
BY THE PIONEER PRESS, ALLAHABAD

1915

[PRICE, 8 As.]

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ECONOMICS IN INDIA

MR. VICE-CHANCELLOR, FELLOWS, AND MEMBERS
OF THE UNIVERSITY—

The present movement for establishing chairs for advanced teaching and research in Economics in several of the Indian Universities is a reflection of the widespread interest prevalent in the country in the study of this subject. The substantial encouragement of the science of Economics undertaken by the Imperial Government of India is a very liberal and a very important step, the more so as it may well form part of a definite policy, the nature of which will appear as I proceed. The investigation of Indian Economics in the freest possible manner through the Universities is the object aimed at; and the establishment of these chairs is a remarkable—I may even say a unique—undertaking, whether regarded as a response to the rapid growth of interest in Economics amongst Indians, or as a policy of Government to provide accurate scientific knowledge as a guide in constructive legislation. It is a happy augury for the success of the plan that the conditions attached to the occupancy of the new chairs are extremely liberal in conception, and exhibit a gratifying appreciation of the needs of higher learning.

It is, therefore, with special pride, and a sense of my good fortune, that I find myself called upon to take a part in fulfilling this design which has been so well conceived. It will be my desire to respond in the same spirit of enlightenment and efficiency ; and I believe that the teachers and students who will be directly associated with me, and my colleagues in the various colleges, will respond to the call with no less eagerness. Allahabad is remarkably well situated for the study of Indian economics, for its central situation will enable personal inquiries to be conducted into all the principal industries of the Empire by visiting the places where they are best developed. I am pleased to record, too, that I find the Provincial Government, whose headquarters is at Allahabad, most sympathetic to the promotion of economic studies. With these special advantages, and with the enthusiasm which already I find on all hands here, may we not hope that Allahabad will have the opportunity of producing in due time a school of economic thought of permanent influence and usefulness ?

Let us hope that our work will be successful in the pursuit of the science for its own sake ; but even more fervently let us hope that we may be granted the power and opportunity to use the knowledge gained for the highest of all purposes—to alleviate the sufferings of the poverty-stricken, and to bring the happiness and joy of a fuller life to

millions of our fellow-subjects in this great Empire. I am thankful to say there are hundreds of educated men in this country who are fired with this ideal, who give unsparingly of their time and of their money in the hope of benefit accruing to their poorer brethren; and I am thankful also to know that the men in high authority over our peace in this land are equally zealous towards the same end. Were it possible by will power to banish poverty and sickness from the land, it would be gone to-morrow.

It is here the responsibility of the economist arises, for he it is who holds the keys by which the tortuous mazes of economic cause and effect may be passed through safely. It is the economist in particular who, with sufficient study, can trace out the paths by which advances may be securely made in the domain of economic and social reform. Economics is a very young science compared with Mathematics, Physics and Chemistry; it is but just entering upon a formal and recognised existence. Allow it time—but above all foster it, and cherish a tradition of truth and exactitude in its study—and without hesitation I predict that it will eventually achieve the most surprising benefits to the human race.

Probably you will understand better why economic studies are so important, if I explain exactly what the science of economics is. I always like to define it briefly as the science of how man strives of secure his material well-being.

Perhaps this is too abstract a statement to convey to many of you much meaning, so let me give you also the extensive definition. Primarily economics is concerned with the wants of man and with how he satisfies them by the consumption and use of all manner of goods. It deals with the production of commodities from the earth's natural resources—with the labour in field and home, in mine, workshop and factory. It studies the use of machinery and the organisation of industry, its growth and its adjustment to the demand. Another branch deals with the exchange of goods, the theories of barter and use of money, of foreign trade, of currency, banking, credit and finance generally. Another great department of the science treats of Distribution—distribution not of goods, but of the income arising from joint efforts at production. Labour does not work unaided—the landowner must lend his land, the capitalist his store of money; in every complex industry some one must organise, direct and control labour, and the same or another man must bear the risk of loss from which no enterprise is free. The stream of goods jointly produced by all these persons they convert into a stream of money; but who shall say how much one has produced, how much another? Because of this uncertainty continues the unending controversy between Capital and Labour, the latter always claiming a greater share. But the wonderfully complex economic laws

of supply and demand do at any moment inexorably determine the distribution of the joint product between the agents of production, subject only to possible legislative interference, the results of which may be unlooked for. Distribution means then the study of the causes of changes of supply and demand and their effects in altering the subdivision of the joint product amongst the agents of production. It is the most difficult, but yet the most fascinating field of economic inquiry.

So far I have touched only on the economics of the community regarded as an aggregate of individuals. For many purposes, however, the aggregate of individuals becomes a unified social organism, and within the Nation so composed a multitude of groups of co-operating individuals are formed. It is part of the province of economics to study the economic activities of nations, and to consider national policies. Likewise the economics of co-operation—Municipal, Commercial and Social—in producing, maintaining, and consuming, is another big field of economic study.

You see how wide is the purview of the economist, even when he confines himself only to the phenomena he finds around him in the life of to-day—a course which he cannot safely pursue. The social organism is constantly growing—expanding in its activities, developing the powers of its individuals, and re-arranging its structure. . . The economist

is forced, therefore, to study the history of communities for centuries back, and to trace out how the economic laws manifested themselves with differing results under the different conditions prevailing in those times. Thus arises the youthful but important science known as Economic History.

Even yet I have not indicated the fulness of economic studies, for it is necessary to distinguish between two methods of work, both needed to discover and firmly establish the truth, but so different that to a great extent they must be carried out by different persons. I refer to the deductive and inductive methods, which in varying sequence and combination constitute the method of every science. Hitherto the work of economists has been mainly deductive. Taking as their premises the commonly observed facts of human nature, and a few well known economic laws discovered in agriculture and commerce, they have made an elaborate series of deductions. Observation of industrial enterprises has then supplied material with which to check and extend these deductions. The few economists who possessed mathematical gifts and training have done remarkable work in establishing economics upon its true basis as a quantitative science. Amongst them Austrian, Italian and Swiss are prominent together with English writers. They have shown that deductions in economics may be best achieved by the ordinary methods of the mathematician and by a

liberal use of graphs, or illustrative curves, which are most useful in bringing home to the eye the true nature of the economic variables met with in every branch of the science.

Economic truths established solely by the most careful deduction are, however, seldom complete—I mean that they rarely apply to any actually existing conditions in any particular country. Just as astronomers have needed to supplement their knowledge of the properties of spheres and ellipses by telescopic observations which have brought to light unsuspected deformations and perturbations of the planets and their orbits, so must the economist check by further observations his deductive efforts, however sustained and clever they may be, before he can be sure of reaching the whole truth. It would be possible for me to think out in the utmost detail how the laws of the supply of labour in different employments obtaining in the conditions of Western Europe must be modified in a country where the caste system prevails; but it would be folly to imagine that I could thus arrive sufficiently near the whole truth for my results to be used as if true. Every stage of deduction needs confirmation by fresh observations; and the whole truth of any matter can only be ascertained by an ingenious combination of deductive suggestions with continuous observation and inductive generalisations from the observed facts. Social phenomena are so complex

that no one man can collect enough facts safely to check his deductions, so that economists have to fall back upon statistics, which in modern times are extensively collected by Government and other agencies. Used with a full knowledge of their origin and meaning, which can often only be obtained by a special personal enquiry, statistics of population, prices, and so forth, are the foundation on which all exact economic generalisations must be based. The study of statistics, and the use of various complicated ways of obtaining economic laws from a multitude of facts and figures, is a special department of study in itself, and it involves work of a most lengthy and laborious character. Statistical economics is yet quite in its infancy, and much attention should be paid to developing it in the near future.

One further discrimination remains to be made before we fully understand the work of the economic investigator. A science is termed a *pure*, or *positive* science when knowledge is accumulated solely with a view to discovering the truth for its own sake. In the positive science there is no question of deciding what men ought to do and how they should do it. A positive science, such as Chemistry, Physics or Zoology, simply describes things as they are, and investigates the relations of cause and effect amongst the different phenomena. Economics—using the term in its proper and restricted sense—is a positive

science—an ordered body of knowledge observing and describing the industrial and commercial world as it exists to-day, and discovering the causal relationships of the phenomena of prices, wages, rent depressions of trade, etc.

Much literature of an economic character, however, is not concerned with the pure science of economics, but falls under two other headings. Some of it is written with a view to advocating a new standard of economic relationships. It is urged, for example, that competition must always be regarded as oppressive on comparatively poor persons, and that it should be modified ; or that an approximate equalisation of incomes should be aimed at. This branch of study is conveniently termed *ethical economics*, and it discusses the relative economic advantages and disabilities of different persons and classes of people, and upon what grounds, or with what aims, alterations of economic status should be attempted. Moral standards of judgment come into use here, whereas in the positive science, which is concerned only with the investigation of facts as they are, they have no application. Keynes calls ethical economics a *normative* or *regulative* science, and defines its object as the *determination of ideals*.¹

The remaining branch of economic study is devoted to devising means whereby certain aims or

¹ *Scope and Method of Political Economy*, 3rd edn., p. 35.

ideals may be achieved in practice. It is an *art* or *applied science* of economics, just in the same sense that we have an art of weaving, forestry or engineering, or an applied science of chemistry. All of these subjects are studied with a view to securing specific benefits to mankind, and they utilize the knowledge accumulated by the positive sciences. Thus engineering applies the knowledge provided by physics in order to construct huge bridges and wonderful electric motors and wireless telegraphs. It is a convenient nomenclature—one often used—to call the applied science an *art* to distinguish it from the positive science which is simply called a *science*; and this is correct, for a science is satisfied with knowledge as its end, but an art pursues what is useful or beautiful so as to please or benefit mankind.

Probably there is no subject in which it is easier to go astray by slipshod thinking than in economics. We have to distinguish carefully and continually the positive from the ethical science, and both from the art of economics; for writers who have failed to do so have often been grievously misunderstood. When studying the science we shall observe things as they are, describe all the multifarious activities of the peasant and the merchant, the miner and the manufacturer. We shall try to account for the phenomena we observe, to determine why prices rise, what has caused one class of

labour to be paid higher than another, or the rents of certain lands to rise, of others, perhaps, to fall. There is to be no wish behind our work to bias our conclusions—we shall work solely to know the truth about things as they are, and the whole truth so far as it may be attainable.

But the economist may turn his attention from time to time to the art of economics—indeed he ought to do so. The end in view will generally be the material benefit of the people, or of a particular class of the people, or of some particular country. It is proposed to attain this benefit either by some action of individuals, as in a boycott, or by voluntary associations or corporate bodies, by municipal ownership and operation, or by the executive or legislative functions of the State. The part to be played by the art of economics is to determine what kind of action in any one of these ways will best conduce to the desired result, and also to predict what concurrent or after effects may be expected, so that steps may be taken to eliminate or nullify those results which are undesirable. For instance, if it be desired to shift the burden of taxation, or to regulate banking ; to oust usurious money-lenders, or to provide peasant cultivators with better cottages ; to improve sanitation in the towns or to extend education to the agriculturalists—all those are questions upon which economics as an art may afford valuable advice—advice founded upon a special

investigation of facts and upon deductions from the known generalisations of the positive science of economics.

The art of economics must always attract anyone who has the welfare of his fellowmen at heart and feels that he possesses knowledge which may help them. Whilst the duties of this chair will be mainly to conduct research in and to teach the pure science of economics, with special, though not exclusive, reference to India, I hope, therefore, that there may be opportunities from time to time to investigate, together with my students, particular practical questions arising in connection with proposed reforms which may be occupying the attention of the public or of the Government.

It is very necessary, however, that others should work with me. The possibilities of advantage to India do not depend only upon the labours of my colleagues in the affiliated colleges and myself and our successors. We cannot create a permanent school of economic thought in India unless we have the intellectual material with which to build. Economics is one of the most difficult subjects ever studied, requiring for its thorough comprehension, and especially for original research, intellectual ability and educational qualifications of a high order. In England I have been much discouraged by seeing the cleverest young men passing my department by in order to train themselves either for one of the

learned professions or for an academic career in one of the older sciences ; or in a few cases to go into business or Government service. I know many such Englishmen who devote much of their spare time in after life to social and political work, with the sole object of benefiting their fellowmen ; but who having received no training in economics, accomplish little that is of lasting utility.

From the few inquiries I have yet been able to make here, I fear that the same trouble is to some extent prevalent in India. The clever students think they can get on better in the more established subjects of study, and some of them when they have graduated, if they become interested in public questions, seem to think that proficiency in languages or law, in mathematics or chemistry, entitles them to give utterance to their opinions on questions of economic art—on tariffs, taxation, establishment of industries—which only the soundest knowledge of economic science can qualify a man to understand.

The remedy would appear to be two-fold. The powers that be might recognise the growing importance of economics and reserve an adequate number of well-paid posts for men who have made a special study of the science. Young men would then feel that a training in economics opened to them as wide a field and ensured them in after life as honourable a career, with as good possibilities of advancement, as any other subject of study. The men

of intellect and ability would then no longer pass it by. At the same time, I would urge that a duty lies upon all students, and particularly on those who are finding themselves successful in their academic career, to consider earnestly whether they do not possess gifts and abilities which, if they were to make a serious study of economics, might be turned to the greatest advantage of their country. Patriotism can be displayed in the lecture-room and the laboratory equally as well as on the battle-field ; and the opportunity in the former case is continuous, and in the latter, one is thankful to say, but rare. None deserve higher praise than the young men in the Universities of England and of India who devote themselves for years after graduating mainly to scientific research, subsisting on an insufficient salary paid for a certain amount of teaching work, their best energies being devoted to patient and laborious research work which often proves of the greatest value to their country and to mankind as a whole, though usually it brings them little or no pecuniary reward.

That spirit of self-sacrifice is wanted amongst increasing numbers in this great Empire ; it is wanted particularly in economics and the kindred social sciences, for truly the problems of an economic character awaiting solution are gigantic. There are certain ways, too, in which India may be said to be peculiarly dependent upon the science and the art of economics for progress in social legislation. India

is the greatest unit of civilised government in the world, counting, as we should, by population. China will, I suppose, be our great rival in the future ; but as yet in China there is no authority which can even keep the peace throughout the land, not to speak of reforming the currency and purging the administration of corruption in high places. Trade can flourish only in restricted areas.

In India the foundations of prosperity and progress have been laid already. Peace has been maintained throughout the land for half a century at the minimum of cost ; protection from external enemies has been enjoyed almost for nothing, whilst the nations of Europe and Northern Asia have been groaning under armaments and war. I cannot think of any other country in the world of 200 millions of inhabitants or more that has enjoyed unbroken peace for fifty years.¹ And to public security, which is always the first essential of trade and of the people's happiness, has been added the development of great railway systems, and the establishment of a stable currency upon an international basis.

The Eiffel Tower of Paris, the loftiest structure in the world, stands upon four shafts and gracefully rears its height far into the freedom of the sky. Just so is the prosperity of a nation built high in complete freedom of trade upon a four-fold basis of

¹ I omit the Frontier Provinces, and disregard civil disturbances having the local character of riots.

Government action ; and the four feet upon which prosperity stands are peace, railways, a good currency, and the education of the people. India enjoys the first three in good measure ; she has peace with justice, she has railways charging low freights, and she has a convenient and stable currency. She is now only partaking with the rest of the world in the general rise of prices. A complete measure of general education, which is in most countries the last of the four essentials to be obtained, she has yet to evolve, however ; and I am satisfied that it is a problem of the most vital economic significance to the country, transcending even the need for more extended irrigation works.

India, as I have said, has made remarkable progress in the three first governmental essentials of a country's prosperity. The Empire would now be advancing more obviously, however, if it were not that one of the first results of progress is to create new problems which clamour insistently for solution. For instance, the establishment of a stable and adequate currency promotes the growth of banking ; and if banks are not rigorously controlled many of them may collapse, bringing ruin and suffering upon hundreds of thousands. Such a financial crisis, which tends to become the more serious the longer unregulated banking has been growing, may even affect the stability of the currency system which has made its development possible.

A more difficult and serious problem confronts us, however, in the mere growth of the numbers of the people. This is caused mainly by the establishment of internal quietude and of transit facilities, which have removed the positive checks to increase of population formerly caused by deaths of violence and the ravages of famine—or by diseases following in its train. Those of you who have not read Malthus's vivid *Essay on Population*, more than a century old, may have a difficulty in clearly realising what the pressure of the population on the limits of subsistence means. The text-books of economics generally fail to give adequate emphasis to Malthus's law, because in countries which are advancing industrially and socially the law operates in a manner widely divergent from his statement of it. Let us consider for a moment, therefore, the condition of the agricultural and labouring population in India, and see what checks are now in operation limiting its increase.

Although the statistics available are not accurate, they show clearly enough that in India a high birth-rate is accompanied by a shockingly high rate of infant mortality, and a very high death-rate. The fact of primary importance, however, is the high birth-rate; for so long as the population tends to increase relatively faster than the means of subsistence, there must continue to be a high death-rate due to poverty and disease. Any one who

reads the chapter on Vital Statistics in the *Imperial Gazetteer of India*¹ cannot fail to be impressed with the terrible nature of the struggle to obtain a bare subsistence in which the majority of the population are almost continuously engaged. The author estimates that out of 232 millions of persons living in British India, there are at any one time about 28 millions sick from all causes, most of them traceable to food being bad in quality or insufficient in quantity. He adds that the sickness "often involves a lower rate of wages for labourers, and everywhere depresses the moral and physical character, and so forms a potent source of poverty."² The chapter on Famines contains further evidence³ :— "The increase of population," it states, "has been great amongst the poorer cultivators and agricultural labours.....Industries are growing up, but as yet they draw only small numbers off the land, occupation being still prescribed by inheritance and tradition. Pressure, therefore, increases where it is already greatest. Holdings already small are subdivided, or sublet at competition rents, while the supply of agricultural labour outruns the demand for it....." And further on we read again, "Agricultural labourers, as already stated, are multiplying rapidly on the margin of subsistence and beyond the requirements of

¹ Vol. I, Chap. X, 1907, p. 500.

² Public Health and Vital Statistics, by A. E. Roberts, *Imp. Gaz.*, Vol. I, pp. 515-6.

³ Vol III, pp. 477, 499, etc.

agriculture, and by so doing are keeping their own wages low.....Agricultural progress will do little to improve their position." The last sentence indicates that the author fully understands the peculiar action of economic forces in depriving a numerous proletariat of participation in the increasing wealth of a country.

Every measure of reform—social, educational, sanitary and political—is bound up with rescuing the mass of the people from the condition of poverty bordering upon destitution in which they are kept remorselessly pressed down by their increasing numbers. Yet the population is almost sure to go on increasing faster than the means of subsistence, if present conditions are maintained. The tremendous nature of the problem becomes apparent when it is realised that the population of India might easily double itself every 30 years, assuming disease and death-rates to be reduced by abundant nourishment being available, and that the sanitary measures prevailing in England were introduced. In 1881 the population of India was over 253 millions, and it might have increased to 506 millions in 1911 instead of only to 315 millions. Undoubtedly the population would have reached 500 millions, but for the positive check imposed by actual want of food.

Suppose that we largely remove this check by extending cultivation, promoting irrigation, and

improving the methods of agriculture, so that the bulk of produce annually raised is greatly increased—how would the increased total wealth be distributed? So far as more land is cultivated, or more intensive methods are adopted, there would be a gradually increasing demand for labour, to which the supply would readily respond, because children and adults who now die would live, and also the birth-rate would increase.¹

It would only be necessary for cultivators to pay a subsistence wage to secure labour, and therefore no more would be paid. Whenever crops fell short there would still be serious unemployment necessitating public relief to prevent thousands being starved; and the only important change from present conditions would be that the numbers to be relieved would be larger. The great increase of wealth resulting from extended and improved culture would not go to increasing the real wages of labourers, and only in a small degree to the tenant farmers who adopted the improvements,² but would go almost entirely to the landlords, including tenants with proprietary interest, and to the money-lenders and grain merchants wherever they had a virtual monopoly, which it is easy for them to make by the simplest combination.

¹ *Imp. Gaz.*, Vol. I. 1907, p. 509.

² The deductive inference is that the tenant farmers who introduced the improved methods would benefit at first, but would lose much of the benefit when the improvements became general,

Suppose, again, that industrial developments proceed in India as they have begun—that more factories are built, mines opened, and iron and steel works started—will this enrich the labouring class? I think not. It would produce high wages only for a comparatively small number of skilled employees. For the unskilled work there would generally be a full supply of labour available at a bare subsistence wage. There is only one condition in which this would not be true, and that is that the demand should increase with a sudden spurt. With isolated local exceptions, there has been no sudden growth of industrial demand for labour in India yet—only a slow steady expansion which the normal increase of population meets at little more than subsistence wages.

We are now brought face to face with an ethical question, an excellent example of ethical economics. There stand clearly before us two alternative goals. We may, on the one hand, aim at such measures as will increase the wealth of the country, and hand that wealth over almost completely to the landowning, commercial and capitalist classes—a hierarchy of wealth built and resting upon the labour of a vast proletariat, sunk in poverty and destitution. On the other hand, we may aim at giving the actual cultivators and the manual workers a larger share of the national income. We may aim at securing them a rate of wages sufficient to keep

them in decent comfort and normally free from destitution, like the working classes of Western Europe, this enhanced wage being earned in hours which leave them leisure for self-improvement and the enjoyment of life. At the same time the intention would be to allow the landowners, merchants and manufacturers a perfectly satisfactory return for the services they would render.

Contrasted in this way, there can be little doubt as to which alternative should be chosen. For myself I may as well state quite clearly once and for all that I shall always assume the second ideal, if I make any proposals or suggestions as to reforms. I shall take it that the aim throughout India should be to raise the remuneration of all grades of manual workers to such a level as will give them independence, permit a higher standard of living, procure freedom from grinding care, from sickness, and from those long hours of labour which allow no respite for self-realisation. A numerous population is never in itself an ideal worth aiming at. In so far as it is possible to control the number of children born into the world, it is far better that they should be few, and grow up to live comparatively happy, humane lives than that they should be many and be consigned to bestial degradation.

The question of what measures can best be adopted in order to attain this ideal is a problem of economic art far too intricate and extensive for me

to deal with now. It is impossible to assume that the causes which are known to restrict the birth-rate in Western European countries are applicable to India, so that the whole subject needs investigation *ab initio* in its economic aspects. There is, however, one suggestion which I can make with a good deal of confidence, and which I think you will find interesting, so that perhaps I may be pardoned for extending an already lengthy illustration of my main theme.

I need hardly remind you that a sudden increase of demand for labour means usually that higher wages are paid, so as to attract a sufficient number of work-people. I am told by large employers of labour in India that this does not generally hold good in this country, because if you pay your factory operatives or miners a higher wage, they simply go home to their villages all the sooner, having no object in saving more than a certain amount. In limited areas, however, a settled industrial population is already being formed, and I think it will be agreed that the transformation should be stimulated as much as possible. As suitable means to this end I would suggest the diffusion of practical elementary education, and also a policy of introducing people to better cottages, better food, and healthy recreation. I believe that without much difficulty the labouring class could be taught to enjoy, and work for, a regular income, if decent cottages with a small plot

of land attached were provided where their industrial work is located, and if they be saved from the temptations of drink and drugs.

In suitable districts where universal elementary education has been established, and is providing by information and suggestion an industrially inclined population, the time will be ripe for a rapid industrial development. Now, the point which I wish to emphasise is that industrial development when it does come should be very rapid, so that for twenty or thirty years the growth of demand for labour may quite outstrip the local growth of supply arising from any possible natural increase of the indigenous population of the district. Wages must, therefore, rise to a level sufficient to attract immigrants from a distance; and this level will be considerably above the subsistence minimum. It is only necessary for such high wages to persist for several years for the working population to adapt its permanent habits to the high level of earnings, which thus becomes fixed. The artisan and labouring classes, when they become accustomed to a higher standard of living, cling to it tenaciously; and, if necessary, protect themselves by combination against a threatened decrease. At the same time, because they are paid more, and live on better food, have more leisure, and are educated and intelligent, they become steadier and more efficient workmen, so that in the end their labour is

not any dearer to the manufacturer. It may even be cheaper.

We may now consider the results of the alternative policy of permitting a slow industrial development, which in most districts will be the result of letting things drift. If the population ripens slowly and the industrial awakening is gradual, because not enough capital and enterprise are available, there will not be a sufficient shortage of labour created. The increasing demand for labour will at no time outrun the increasing supply due to the natural increase of population. Wages rates will, therefore, remain low, and the people will be shiftless and degraded, unsteady in work and comparatively inefficient. The manufacturer must always adapt his business to the type of labour he finds available ; and so with such a population the products will be cheap, low-quality goods, which are the only kind that can be made by poorly-paid, half-skilled working men and women.

The moral to be drawn from these deductions is that when the ground has been prepared throughout a province or large district, steps should be taken to create and stimulate a very rapid industrial transformation upon well conceived lines, utilising to the full all the natural resources of the area in course of development and its surrounding country.

There is no need for me to give further illustrations of the economic problems which confront

the Government of this country. There will generally be economic difficulties to which it is absolutely necessary that the attention of Government be turned; but there will also always be economic measures which would have beneficial results if the Government were to undertake them. It is obvious that if the right solution of all the problems is to be found as they present themselves, and if the Government is to be able to proceed with certainty in its constructive legislation, it is of the highest importance that economics should be scientifically studied in all parts of India.

In every country legislation, and executive action, will be facilitated by the progress of economic science and research; but to governments of the type prevailing in India the expert assistance of trained economic investigators is of especial importance. It is easy to see why this is so if we compare the essential features of the democratic and bureaucratic types of government.

In every country where an elected Parliament is supreme, and controls the Cabinet, legislation proceeds by means of a contest or balance of conflicting interests. In actually drafting a particular bill technical experts, such as engineers, lawyers, and so forth are, of course, consulted; but experts in the science and art of economics are not called in although they could give most valuable advice as to the general policy of a bill and as to the ulterior economic effects

of the proposed legislation. That aspect of the matter is usually ignored.

The contesting parties who force their claims on the government in power will have nothing to do with economics unless they can use it, or pervert the statements of its professors, to strengthen their case. The particular interests that secure the introduction of a bill know their own immediate object and how they wish to attain it, and they are impatient of a science, which they do not understand, presuming to tell them their own business, and warn them of possible evil after effects. The position of the government, unless it happen to have a great majority, does not enable it to consider in a scientific manner the general trend of its economic policy. It is more generally engaged in acting as an arbitrator between opposing factions on questions which continually force themselves to the front, and in recording as laws the best compromises it can effect.

A democracy is an inchoate mass which struggles forward slowly in the improvement of its own condition by a prodigious amount of effort in propaganda and conflict. It is always an immediate grievance which interests the mass of the people, and in proportion as the franchise is widened and the voters actually control the legislature so does the latter become increasingly conservative in temperament. It merely registers in its acts the changes

already brought about by industrial and social development. It cannot lead or direct national progress.

A truly democratic government is almost devoid of initiative, whether in developing the resources of the state or in improving the condition of the people. The people at large will not willingly accept a temporary small sacrifice in money, and particularly in change of habits, in order to reap much benefit for the nation a few years later. Not one elector in a hundred can understand a scientific argument; consequently every reform the benefit of which can only be realised by a trained mind must either be rushed through Parliament before the public can fully realise what is being done, or be abandoned. In England the National Health Insurance Act, and the Daylight Saving Bill are cases in point.

Let me take a very practical example to illustrate what I mean. We have in India the most scientific coin of small denomination I have ever seen in any country—the one-anna nickel piece. It is just the right size and weight, and the lobes on the edge make it easily distinguishable by feel from any other coin. You know what a big cumbrous bronze coin the English penny of the same value is. I have often thought whether I would try to start a movement in England to alter the penny to a small nickel coin like the anna, but have decided it is not worth the labour, the chances of success being so

small. Having formed a special association for propaganda, and having got a number of organisations to support the change, there would arise an overwhelming opposition composed of the financial interests connected with the automatic machine companies, the unreasoning prejudice of the public, and ridicule of the comic papers. So that a simple reform, which can be accomplished by a stroke of the pen in India, is a work of such magnitude in England that no individual and no government cares to take the initiative. If one goes from such a simple question as this to the reforms of an economic character affecting the wages and social organisation of the people in which science may show that it is advantageous the government should interfere, what chance is there in a democracy of anything but the slowest progress? Is it possible to make many millions of electors understand complicated economic questions? In Australia and New Zealand, which have the most intelligent electorate in the world, there are more mistakes made in economic legislation than in most countries—I suppose because a little knowledge is a dangerous thing. The bulk of electors, and even the majority of members of Parliament, are chosen for their powers of oratory, not for their wisdom, and know very little of economics.

In the Chair I held at Cardiff it was my duty to lecture on political theory as well as economics; and I have taken every opportunity of observing party

government at work in England, Australia, and America. As a result I say without hesitation that a bureaucracy advised by scientific experts, consulting with representatives of all classes and sections of the people, but not controlled by them, is the type of Government which will ensure the most safe and rapid progress.

The principal merit of a popularly elected Parliament is that it acts as a check upon a government which may make mistakes through ignorance, or is negligent in the discharge of its trust, or has not really the interests of the people at heart. In the past a popularly elected assembly has been a necessary, although always a clumsy, form of check. But now the developments of the human sciences, particularly economics and sociology, is for the first time in the world's history making the scientific form of government possible.

For such a type of government to be the most advantageous, however, the first essential is that it should be conscientious in the discharge of its duty of promoting the welfare of the subjects. Fortunately there is no question as to the good intentions of the Imperial and Provincial Governments of India; but the difficulty lies in translating benevolence into beneficence. Let us hope that it will be the privilege of the Universities, together with the statistical and technical departments of the Governments, the duties of which will be soon ably fulfilled

by many Indians, to provide the knowledge which will enable that gap to be permanently bridged. So may India flourish, and emerge from the great traditions of the past to lead the world anew in commerce and in learning.

One final word ; lest my repeated reference to the Government undertaking economic measures should lead any one to suppose that I overlook the enormous importance to the nation of individual initiative and enterprise. There are certain things which a government must do, and there are many other things which can be far better done by the State than by private enterprise ; but there should be no disposition to rely upon Government initiative, except in the well-defined sphere of public utility services. In every branch of industry and commerce, art and learning, it is the activities of individuals that constitute the real life of the nation ; and both competition and co-operation should be fostered because each is capable of imparting valuable qualities to the race as well as great advantages to the individual. And further we may perceive that the highest form of co-operation is co-operation with the Government. How wonderfully this is realised in a national emergency ! There are thousands of instances, however, where such co-operation would be of the greatest advantage to the country in times of peace. The field is particularly wide in educational enterprises, and in the general field of

economic and social reform. Here then we see the importance not only of investigating economics, but also of diffusing a knowledge of it widely and well. Both lectures and books are needed which shall interpret in plain language the wonderful and complex truths of the interactions of men upon each other in the ceaseless struggle for existence, and for the attainment of comfort and happiness; and it is to the Universities that the public must look for them. India is so large and so varied that a small army of devoted students of economics is needed, who are to become investigators and lecturers. It is for the right men to come forward and meet their country's needs. They may be assured that there is no more fascinating subject of study for any industrious person gifted with a clear intelligence and a broad fund of human sympathy.

ADDENDUM

As the foregoing lecture is being published I would like to add that readers should bear in mind that it is an inaugural lecture, and as such aims simply at indicating how the study of Economics in India may be of special benefit to the country. Various matters are referred to by way of illustration ; but in no case is the brief allusion here made to be regarded as an adequate discussion of such complex questions. They all require further prolonged investigation, which it is the main object of the Economics Department of this University to undertake.

I cannot help hoping that this print of my lecture may fall into the hands of some, who may feel prompted by things I have said to do what they can to assist in the development of the study of Economics in India, particularly by the establishment of an adequate school of Economic studies at Allahabad. I can assure generously disposed persons that there are many ways in which they can help. For instance, landed proprietors and business men can often give Economists most valuable information if they are willing to disclose the details of their affairs for the purely confidential use of the department. I propose to keep a register of persons willing to do this, so that whenever the special information which any person possesses seems likely

to be of service for a particular question under investigation, the University Professor may always have the advantage of immediate access to it. The names of persons and business firms generous enough to give information will be kept from publication and in every way strictly confidential if they should so desire.

Help can also be given in another way. The University needs a big Library of Economic and Commercial literature and of Statistical publications. Although the Imperial Government has made a grant to enable it to secure the most necessary books, there are several thousands more which it would be the greatest advantage to have. Hence gifts to the University Library of books, or of money to purchase them, will always be most welcome.

Another difficulty is that some of the most promising students who would be ready to give three years or more to research work under my direction may be quite unable by the circumstances of their family to support themselves for so long a time ; and, as I am obliged to insist upon research students giving their whole time to the work for the first two or three years, there is every likelihood that some such students may be lost to the department unless an adequate number of Research Scholarships can be established. Here is an opportunity for benefactions of the most useful kind. I shall always

be glad to answer any inquiries in regard to these matters.

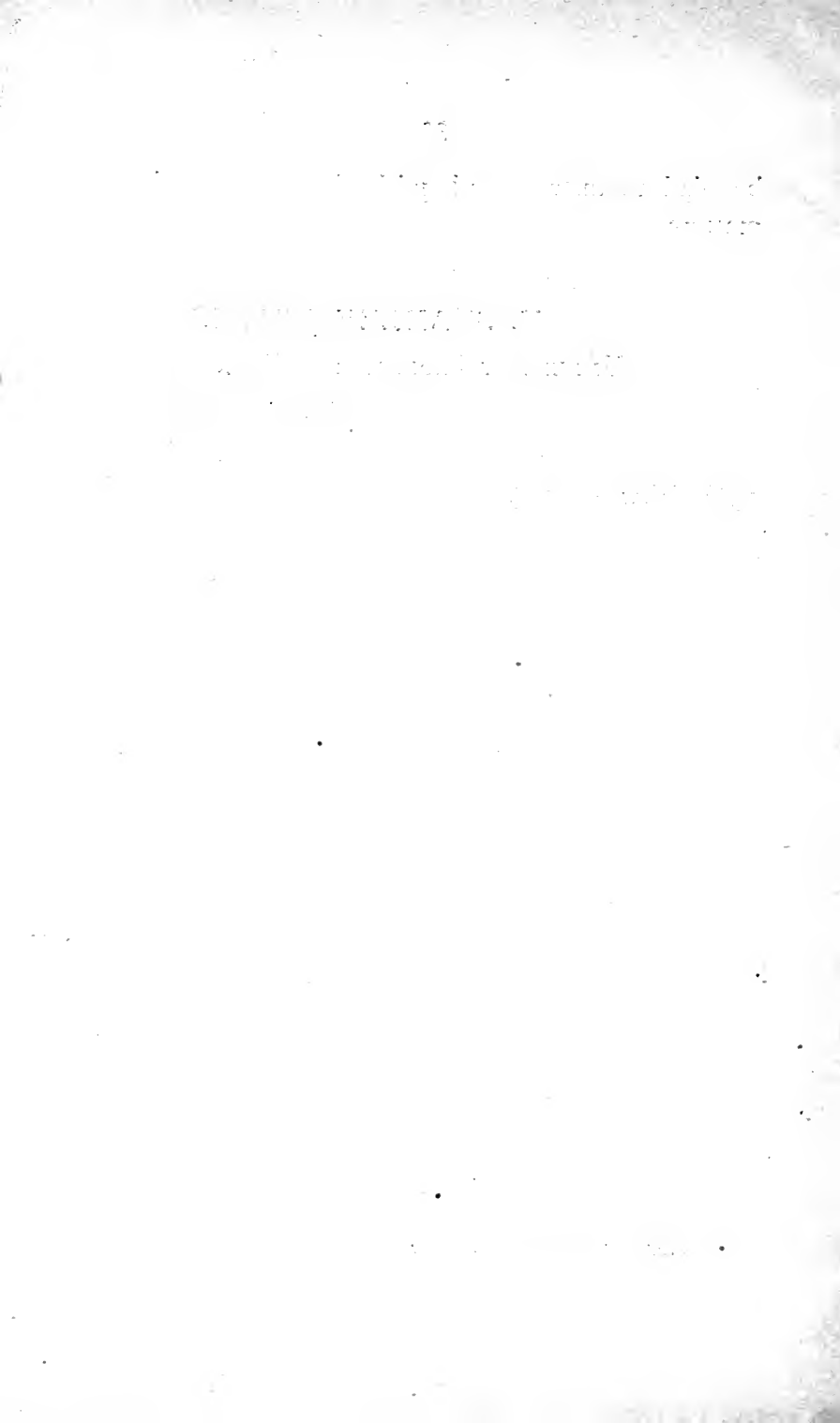
H. STANLEY JEVONS

UNIVERSITY PROFESSOR OF ECONOMICS

Senate House

Allahabad

15th February 1915





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